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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/766,498	01/19/2001	Jemm Yuc Liang	M-10709-1P US	1094

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EXAMINER

CHANG, KENT WU

ART UNIT	PAPER NUMBER
2673	

DATE MAILED: 05/10/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/766,498

Applicant(s)

LIANG, JEMM YUE

Examiner

Kent Chang

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) 1-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 43-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.7.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Species IV in Paper No. 9 is acknowledged.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 43-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art on pages 1-3 in view of Erhart et al (US Patent 5,852,426, submitted by applicant).

On pages 1-3, applicant admitted that a passive LCD device including a two-dimensional matrix of intersecting rows and columns of pixels, which are formed by the overlapping areas between an array of row electrodes intersecting an array of column electrodes, and the row electrodes in the LCD device are divided into a plurality of section which are driven with AC signals. Applicant is silent in connecting the two rows of pixels so as to discharge the pixels that were driven under opposite polarities.

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However, Erhart teaches to connect the pixels that were driven with opposite polarities to a reference point so as to discharge the pixels before applying a driving voltage to the electrode (column 7 line 51 to column 8 line 68). In other words, the driving voltage in the device of Erhart is applied in two steps, the first step of rising the voltage of the electrode to a median bias voltage using recycle charge, and the second step of rising the voltage from the median bias voltage to the driving voltage so as to save power (as recited in claims 44, 45). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to connect the pixels that were driven with opposite polarities to a reference point as taught by Erhart in the conventional LCD display so as to discharge the pixels since it could have reduced power consumption as suggested by Erhart.

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Consider claims 50 and 51. The device of Erhart includes at least two power sources and switches for supplying the positive and negative voltage to the electrodes (Fig.2).

Consider claims 47, 48, 53, 54. Erhart teaches to use a capacitor for storing the recycling charges (element 66).

Consider claim 55. The device of Erhart is an active matrix device.

Consider claim 56. It would have been obvious for one of ordinary skill in the art at the time of the invention to drive more than one line of the display during one scanning cycle since the examiner takes Official Notice that it is well known in the art to simultaneously drive multiple lines so as to increase the driving speed.

#### **CONTACT INFORMATION**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kent Chang whose telephone number is 703-305-4824. The examiner can normally be reached on Monday to Thursday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at 703-305-4938.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

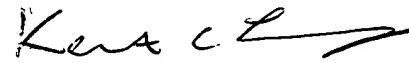
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**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 305-9700.



Kent Chang  
Primary Examiner  
Art Unit 2673

Kc

4/3/04